

173-204-200 Definitions

- All definitions likely considered WQS.
- Would like to further discuss the definition of regional background in the SMS and the definition for natural background in MTCA and how they apply.
 - Ecology response: The definition of natural background in MTCA is the same in the SMS. Both regional background (new concept for SMS) and natural background (addition to the SMS but not new to MTCA) are applied within the two tier framework as described in the attached document.
- Would like to further understand the difference between sediment cleanup objective, sediment cleanup standard and sediment quality standard and if these are new concepts or if they are in the existing version of the SMS.
 - **Ecology Response:** These three terms and concepts are not new to the SMS. We have just added more specificity to the human health criteria and ecological narrative. Under the existing framework the terms “sediment cleanup objective” and “sediment quality standard” are synonymous and define the lower tier for establishing cleanup standards. We’re not quite sure why there are two terms in the existing rule for the same thing. However, under the revised rule the term “sediment quality standard” applies to the benthic marine and freshwater criteria and establishes the lower tier for establishing cleanup standards. The term “sediment cleanup objective” remains as the lower tier but encompasses the human health criteria, ecological narrative, and the benthic criteria.
- Remainder of the revisions to the definitions appear to be reasonable.

173-204-500 Overview of sediment cleanup decision process and policies.

- Revised provisions (5)(a), (5)(b), (6) likely considered WQS.
- Remainder of provisions likely not considered WQS.
- A better understanding of the difference between sediment cleanup objective and sediment cleanup standards would be helpful, but it appears this is simply background information about the structure of the SMS that may be unchanged. Is that correct?
 - **Ecology Response:** Yes.

173-204-510 Screening sediment station clusters of potential concern.

- Likely not considered WQS.

173-204-520 Cleanup screening levels criteria.

- Likely considered WQS but entire section moved to 173-204-572; further explanation provided in that section.

173-204-530 Hazard assessment and site identification.

- Likely not considered WQS.

173-204-540 Evaluating and list of sites.

- Likely not considered WQS.

173-204-550 Types of cleanup and authority.

- Likely not considered WQS.

173-204-560 Remedial investigation and feasibility study.

- Likely not considered WQS.

173-204-570 Sediment cleanup standards - General considerations.

- Entire section likely considered WQS.
- Would like to understand sediment cleanup standards for sediment cleanup objectives better – was this the existing framework? What is the effective standard and what number is implemented?
 - **Ecology Response:** This is the existing SMS framework. However, the human health (section -571) and ecological narrative (-574) have been incorporated in more detail. Previously the human health criteria was a narrative of “no significant risk to human health” and bioaccumulative/other toxic impacts to higher trophic levels was implied without specificity. In the existing SMS framework, the sediment cleanup standard is established between the Cleanup Screening Level and the Sediment Cleanup Objective (aka Sediment Quality Standard). This is the cleanup level that must be met within ten years from completion of cleanup construction. The Sediment Cleanup Objective is the approved Water Quality Standard, is the goal of the SMS, and the eventual goal for cleanup.
- With the exception of revised provisions (3)(e) and (4)(h), the revisions to this section appear to simply incorporate the human health, freshwater, and ecological health risks from bioaccumulative chemicals sections.
 - **Ecology Response:** That is correct.
- Would like to further discuss the meaning of the provisions at (3)(e) and (4)(h) relative to natural background and regional background and whether they only apply to human health.
 - **Ecology Response:** Background applies to the two tier framework as described in the graphic at the attached document. The upper tier is bounded by the highest concentration of Regional Background, PQL, or a risk based concentration. The risk based concentration is for human health from bioaccumulatives and ecological risk from bioaccumulative or other toxic impacts to higher trophic levels (beyond the benthic community). The lower tier is bounded by the highest concentration of Natural Background, PQL, or a risk based concentration. The risk based concentrations are determined as follows:
 - Upper tier: The risk based concentration is the lowest of the CSL benthic criteria (section 572 – 573), ecological narrative (section -574), human health risk (section -571; 10^{-5} total site risk to human health/HQ=1).
 - Lower tier: The risk based concentration is the lowest of the SQS benthic criteria, ecological narrative, or human health risk (10^{-6} risk level for individual carcinogen/ 10^{-5} risk level for multiple carcinogens/HQ=1).
- Would like to further discuss what “no significant threat to human health” means in provisions (3)(b) and (3)(e).
 - **Ecology Response:** This is detailed out in section -572(2) through -571(4). The cliff notes version is:

- For the lower tier: 10^{-6} risk level for individual carcinogen/ 10^{-5} risk level for multiple carcinogens/HQ=1
- For the upper tier: 10^{-5} total site risk to human health/HQ=1

173-204-571 Sediment cleanup standards based on risks to human health.

- Entire section likely considered WQS.
- Would like to discuss and better understand how the sediment cleanup objective versus the maximum allowable level works.
 - **Ecology Response:** See the attachment and above responses
- In provisions (2)(a) and (3)(a) it appears that the hazard quotient can never exceed 1. Is that correct or does the second sentence change that?
 - **Ecology Response:** This is correct.
- Would like to further discuss (2)(c) and (3)(c). How does the natural condition definition from MTCA apply here? Can it be anthropogenically influenced?
 - **Ecology Response:** MTCA does not have a natural condition clause. MTCA Natural Background, which we have added to the SMS, includes anthropogenic and natural chemicals from anthropogenic and natural sources.
- Similarly, how does the regional background provision work? It appears that natural conditions or regional background trump the risk based criteria for human health.
 - **Ecology Response.** That is correct. MTCA currently allows “Natural Background” to trump human health risk criteria. We have added that provision to the SMS for cleanup. The same applies to Regional Background, as an upper bound for establishing cleanup standards.
- If the designated uses are the same as in the WQS, how do different targets in the SMS and WQS work? Unlike aquatic life, EPA’s WQS policy is that natural conditions cannot be used for human health unless it can be shown that human health designated uses are protected.
 - **Ecology Response:** This is the disconnect between MTCA cleanup provisions and the CWA/WPCA. However, we contend that it would be a heavy burden to prove that the revised SMS cleanup standards based on MTCA Natural Background for individual cleanup sites, which are orders of magnitude lower than the existing SMS rule, will violate designated uses.
- Can sediment impact zones be used for human health?
 - **Ecology Response:** Part IV of the current SMS rule allows for an SIZ for NPDES permitted facilities contaminating sediment at concentrations above the Sediment Cleanup Objective but below the Cleanup Screening Level, which incorporates the current human health standard of “no significant risk to human health”. We have not revised Part IV so this will not change.
- How does the FCR in (4)(a) work? Is there an equation to input this value into and how does it interface with 54 g/day FCR in MTCA?
 - **Ecology Response:** We are considering adding equations for carcinogenic and non carcinogenic human health effects to the SMS rule. The revised paragraph is meant as a placeholder until the agency makes a decision on an FCR within the next few months. After that decision has been made, the FCR number will be added to this paragraph and will supersede the MTCA 54 g/day FCR. We have not decided if we will add equations to the rule. But, the equation will be for

establishing protective sediment concentrations. The default FCR will be one exposure parameter in the equation to establish a protective risk based concentration at 10^{-6} and 10^{-5} risk levels.

173-204-572 Cleanup screening levels based on benthic toxicity in marine sediment.

- Entire section likely considered WQS.
- It looks like there are little (if any) substantive revisions to this section. The structure/framework and criteria tables all seem identical to the current version of the SMS – just reorganized. Is that correct? If that's the case, there will likely be little review needed for this section and ESA consultation will likely not be necessary.
 - **Ecology Response:** That is correct. The section was moved and revised for better comprehension.

173-204-573 Cleanup screening levels and sediment quality standards based on benthic toxicity in freshwater sediment.

- Entire section likely considered WQS.
- It appears this section is structured identically (regarding sediment quality standards and cleanup screening levels) to the marine section. Is that correct?
 - **Ecology Response:** That is correct.
- Would like to discuss/learn more about how the sediment quality standards and cleanup screening levels values were derived and how the two are implemented.
 - **Ecology Response:** We would be happy to discuss further. You may also review the technical report that can be accessed at:
<http://www.ecy.wa.gov/programs/tcp/regs/2011-SMS/adv-comm/mtg-111209/111209-mtg-mat.html> under the document titled “Development of Benthic SQVs”
- Since this section and the criteria values within it are new, will likely need ESA consultation.
- How does implementation of less stringent freshwater values work in transition zones in which more stringent marine values are applicable downstream?
 - **Ecology Response:** The current SMS rule is flexible and requires downstream effects to be taken into account when establishing a cleanup standard. During the Remedial Investigation/Feasibility Study process it would be determined if downstream estuarine or marine areas would be impacted by the cleanup site. And, if so, the most stringent standard would apply.

173-204-574 Sediment cleanup standards based on ecological risks from bioaccumulative chemicals.

- Entire section likely considered WQS.
- Seems like a good narrative standard to include in the SMS. Would be interested in knowing more about how it is expected to be implemented.
- Since this section is new, it will likely need ESA consultation as it relates to aquatic life.
- Would like to discuss more about the provision at (2)(b) and how it works with natural conditions.
 - **Ecology Response:** It is expected that, if the concentration protective of higher trophic levels is higher than MTCA natural background, then background would

be the cleanup standard. However, where it is determined ESA listed species are impacted by the cleanup, a cleanup standard protective of ESA species would trump background as a cleanup standard.

173-204-580 Selection of cleanup actions.

- Likely not considered WQS.

173-204-585 Cleanup action decisions.

- Likely not considered WQS.

173-204-590 Sediment recovery zones.

- Revised provisions (1) and (2)(a) likely considered WQS. (5)(b) could possibly be considered a WQS as well. The revisions to these provisions appear to be primarily non-substantive.
- Remainder of provisions likely not considered WQS.